

DESCRIPTION

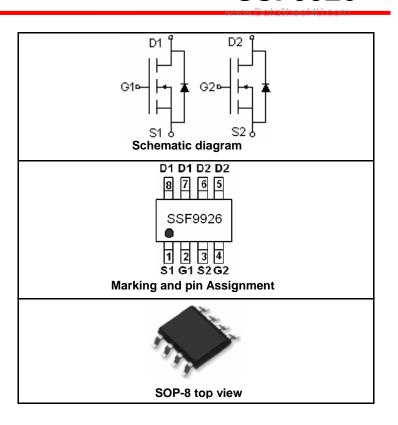
The SSF9926 uses advanced trench technology to provide excellent $R_{\rm DS(ON)}$ and low gate charge .This device is suitable for use as a load switch or in PWM applications.

GENERAL FEATURES

- $V_{DS} = 20V, I_D = 6A$ $R_{DS(ON)} < 28mΩ @ V_{GS} = 2.5V$ $R_{DS(ON)} < 44mΩ @ V_{GS} = 4.5V$
- High Power and current handing capability
- Lead free product is acquired
- Surface Mount Package

Application

- ●PWM applications
- Load switch
- Power management



PACKAGE MARKING AND ORDERING INFORMATION

Device Marking	Device	Device Package	Reel Size	Tape width	Quantity
SSF9926	SSF9926	SOP-8	Ø330mm	12mm	2500 units

ABSOLUTE MAXIMUM RATINGS(TA=25 ℃ unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V _{DS}	20	V
Gate-Source Voltage	V _G s	±10	V
Drain Current Continuous & Current Buland (Note 1)	I _D	6	А
Drain Current-Continuous@ Current-Pulsed (Note 1)	I _{DM}	24	А
Maximum Power Dissipation	P _D	2	W
Operating Junction and Storage Temperature Range	T_{J}, T_{STG}	-55 To 150	$^{\circ}$

THERMAL CHARACTERISTICS

Thermal Resistance, Junction-to-Ambient (Note 2)	$R_{ heta JA}$	62.5	°C/W
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ELECTRICAL CHARACTERISTICS (TA=25°Cunless otherwise noted)

Parameter	Symbol	Condition	Min	Тур	Max	Unit	
OFF CHARACTERISTICS							
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V I _D =250μA	20			V	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =20V,V _{GS} =0V			1	μA	

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Gate-Body Leakage Current	I_{GSS}	V_{GS} =±10 V , V_{DS} =0 V			±100	nA
ON CHARACTERISTICS (Note 3)						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} ,I _D =250μA	0.6	0.75	1	V
Drain-Source On-State Resistance	В	V _{GS} =4.5V, I _D =6A		22.5	28	mΩ
Dialii-Source On-State Resistance	R _{DS(ON)}	V _{GS} =2.5V, I _D =5.2A		32	44	mΩ
Forward Transconductance	g FS	V _{DS} =5V,I _D =4.5A		18		S
DYNAMIC CHARACTERISTICS (Note4)						
Input Capacitance	C _{lss}			550		PF
Output Capacitance	Coss	V_{DS} =8V, V_{GS} =0V, F=1.0MHz		140		PF
Reverse Transfer Capacitance	C _{rss}			120		PF
SWITCHING CHARACTERISTICS (Note 4	4)					
Turn-on Delay Time	t _{d(on)}			9.6		nS
Turn-on Rise Time	t _r	V_{DS} =10V, V_{GS} =4.5V, R_{GEN} =6 Ω		6.5		nS
Turn-Off Delay Time	t _{d(off)}	I _D =1A		28		nS
Turn-Off Fall Time	t _f			6		nS
Total Gate Charge	Qg			6		nC
Gate-Source Charge	Q _{gs}	V _{DS} =10V,I _D =3A,V _{GS} =4.5V		1.5		nC
Gate-Drain Charge	Q_{gd}			1.5		nC
DRAIN-SOURCE DIODE CHARACTERIST	rics			1		
Diode Forward Voltage (Note 3)	V _{SD}	V _{GS} =0V,I _S =1.7A		1	1.2	V
		1				

NOTES:

- Repetitive Rating: Pulse width limited by maximum junction temperature.
 Surface Mounted on 1in² FR4 Board, t ≤ 10 sec.
 Pulse Test: Pulse Width ≤ 300µs, Duty Cycle ≤ 2%.
 Guaranteed by design, not subject to production testing.



TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS

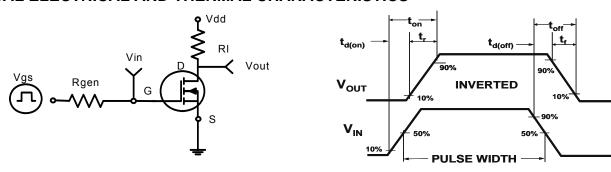


Figure 1: Switching Test Circuit

Figure 2:Switching Waveforms

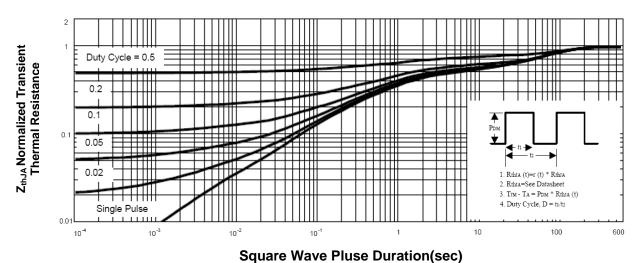
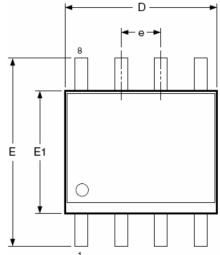
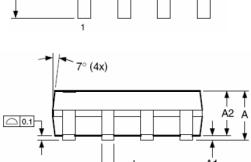


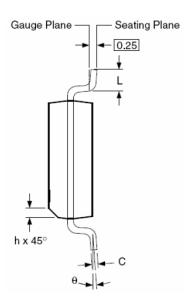
Figure 3: Normalized Maximum Transient Thermal Impedance



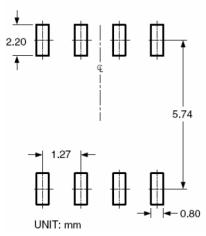
SOP-8 PACKAGE INFORMATION







RECOMMENDED LAND PATTERN



Dimensions in millimeters						
Symbols	Min.	Nom.	Max.			
Α	1.35	1.65	1.75			
A1	0.10	_	0.25			
A2	1.25	1.50	1.65			
b	0.31	_	0.51			
С	0.17	_	0.25			
D	4.80	4.90	5.00			
E1	3.80	3.90	4.00			
е	1.27 BSC					
E	5.80	6.00	6.20			
h	0.25	_	0.50			
L	0.40	_	1.27			
θ	0°	_	8°			

Dimensions in inches						
Symbols	Min.	Nom.	Max.			
Α	0.053	0.065	0.069			
A1	0.004	_	0.010			
A2	0.049	0.059	0.065			
b	0.012	_	0.020			
С	0.007	_	0.010			
D	0.189	0.193	0.197			
E1	0.150	0.154	0.157			
Ф	0.050 BSC					
Е	0.228	0.236	0.244			
h	0.010	_	0.020			
L	0.016	_	0.050			
θ	O°	_	8°			

NOTES:

- Dimensions are inclusive of plating
 Package body sizes exclude mold flash and gate burrs. Mold flash at the non-lead sides should be less than 6 mils.
- 3. Dimension L is measured in gauge plane.
- 4. Controlling dimension is millimeter, converted inch dimensions are not necessarily exact.



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